

Notice of Allowability

Application No.

10/813,682

Examiner

Bernard E. Souw

Applicant(s)

VAN DER PASCH ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/17/2007 (Amdt).
2. ☒ The allowed claim(s) is/are 1-32.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 9/26/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this Examiner's Amendment has been given during a phone conversation with applicant's attorney, Mr. Jean-Paul G. Hoffman, Reg. No. 42663, on Friday, March 30, 2007.

In the claims:

- ▶ In claim 1, line 3, after "*radiation source configured*", prior to "*a second*", delete [*to provide radiation in a first wavelength range and in*] , and insert -- ***to provide an exposure radiation in a first wavelength range and an exposure radiation in*** --.
- ▶ Still in claim 1, lines 9-10, after "*to project*" prior to "*the substrate*", delete [*the patterned radiation onto a target portion of*] , and insert -- ***the patterned exposure radiation onto a target portion of radiation sensitive material of*** --.
- ▶ In claim 12, line 2, after "*providing*", prior to "*wavelength range*", delete [*radiation at a first wavelength range and a second*] , and insert -- ***exposure radiation at a first wavelength range and at an exposure radiation at a second*** -- .

► Still in claim 12, line 5, after “*projecting*” prior to “*substrate*”, delete *[the patterned radiation onto a target portion of]* , and insert -- ***the patterned exposure radiation onto a target portion of radiation sensitive material of*** --.

Terminal Disclaimer Moot

2. By virtue of the above claim amendments, a previous requirement of Terminal Disclaimers disclaiming the terminal portions of any patent granted on this application which would extend beyond the expiration dates of US Patent No. 6,924,885; US Application No. 10/792909 (USPGPub 2005/0110965); US Application No. 10/734,639 (USPGPub 2005/0078292); US Application No. 10/957752 (USPGPub 2006/0072107); US Application No. 11/242146 (USPGPub 2006/0072108); are moot.

Information Disclosure Statement

3. Receipt is acknowledged of information disclosure statement (IDS) submitted on 09/26/2006. The submission is in compliance with the provisions of 37 CFR 1.97.

A signed copy of the information disclosure statement is here enclosed.

Applicant Initiated Interview

4. A series of Applicant-initiated telephone interviews with Applicant's Attorney, Mr. Jean-Paul G. Hoffman, Reg. No. 42663, have been conducted over one week period, (the most recent one on Friday, March 30, 2007) to discuss the allowability of the claimed invention over the Examiner's cited prior art, Nara et al. (USPAT 5,850,279),

and further, over Applicant's IDS-cited prior art, Oshino et al. (USPAT 6,208,707) and Gerhard et al. (USPGPub 2001/0026402). After lengthy and thorough discussions, agreement was reached as to how the claim language is to be changed to overcome the prior art references. The specific claim language agreed upon is manifested in the Examiner's amendment of claim 1 and claim 12.

Applicant's Amendment

5. The Amendment filed 01/17/2007 has been entered. The present Office Action is made with all the arguments being fully considered.

Claims 9, 11, 14, 20 and 22 have been amended.

New claims 23-32 have been added.

Claims 1-32 are pending in this office action.

ALLOWANCE

6. Claims 1-32 are allowed.

Reasons for Allowance

7. The following is an examiner's statement of reasons for allowance:

► An apparatus or method employing a radiation source configured to provide an exposure radiation in a first wavelength range and another exposure radiation in a second wavelength range (*supported by the disclosure, sect.[0043]/lines 6-8*), the second wavelength range being different from the first wavelength range; a support

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configured to support a patterning device configured to impart the radiation with a pattern in its cross-section; a substrate table configured to hold a substrate; a projection system configured to project the patterned exposure radiation onto a target portion of radiation sensitive material of the substrate, as recited in claims 1 and 12, is neither anticipated nor rendered obvious by any prior art.

► Claims 23 and 28 are allowed for reciting the use of two radiation wavelengths that are both patterned, but more specifically that one wavelength is used in a controlled ambient environment, whereas the other is used when the controlled environment is not established.

► Claims 2-11, 13-22, 24-27 and 29-32 are also allowed because of its/their dependencies, either directly or indirectly, upon claims 1, 12, 23 or 28.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Relevant Prior Art

9. This prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

A. Regarding claims 1 and 12:

(a) USPAT 5,850,279 issued to Nara et al. discloses an apparatus or method employing a radiation source configured to provide a radiation in a first wavelength range for exposure and another radiation in a second wavelength range for alignment purposes, but not both for exposure as claimed by the present invention. Furthermore, Nara's alignment wavelength is not patterned.

(b) USPAT 6,208,707 issued to Oshino et al. discloses an apparatus or method employing a radiation source configured to provide a radiation in a first wavelength range and another radiation in a second wavelength range, both radiations being patterned by the same patterning device. However, Oshino's first wavelength is only used for exposure, and the other wavelength only for alignment.

(c) USPGPub 2001/0026402 issued to Gerhard et al. discloses an apparatus or method employing a radiation source configured to provide a radiation in a first wavelength range and another radiation in a second wavelength range. However, Gerhard's second wavelength is used for decontamination purposes, and also not patterned.

B. Regarding new claims 23 and 28:

(a) Nara et al. do not pattern both the first and second wavelength radiations.

(b) Oshino et al. expressly recite using different wavelengths for alignment and exposure, also that both radiation wavelengths are patterned. However, Oshino et al. use each of the wavelengths in the same controlled ambient environment, since Oshino's light source is either a laser plasma X-ray source or a synchrotron radiation, both operating in vacuum (i.e., controlled) environment (Col.6/ll.2-13).

(c) Gerhard et al. first and second wavelengths are vacuum UV (100-300 m). Therefore, both must be operated in the same controlled environment (i.e., vacuum).

Communications

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard E Souw, Ph.D., whose telephone number is 571 272 2482. The examiner can normally be reached on Monday thru Friday, 9:00 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571 272 2293. The central fax phone number for the organization where this application or proceeding is assigned is 571 273 8300 for regular communications as well as for After Final communications.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571 272 5993.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature, possibly reading "JB", in cursive script.A handwritten signature, possibly reading "Robert Kim", in cursive script.
ROBERT KIM
SUPERVISORY PATENT EXAMINER